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ABSTRACT

The state of the art of research on child development in New Zealand is reported in this paper. It is noted that while many courses in child development are taught in New Zealand, few incentives or resources for a viable and continuous child development research program are provided. Perhaps because of restricted opportunities for research and publication in prestigious journals, many of the authors who have written about child development in New Zealand have lived abroad, as either visitors or expatriates. Historically, there has been a link between medicine and child study in New Zealand: this link is continued in recent studies. Cross-cultural comparative research among the Maori and Pakeha provide background data for researchers on child development. Three bodies of methodologically sound, progressive developmental research presently exist. These include studies of children's understanding of factors determining achievement and children's attributions for failure: their ethnic awareness, attitudes and intergroup preferences: and ethnic differences. In addition, several studies, with various limitations and possibilities, have been conducted to examine juvenile offenses and adolescent behavior and experience. In conclusion, recommendations for the design of future developmental studies among New Zealanders are provided. (Author/RH)

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Research on Child Development in New Zealand

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TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC) AND USERS OF THE ERIC SYSTEM."

If child development were to be interpreted narrowly to mean the sub-discipline of developmental psychology my task would be easy. I could claim that there is little of such research in New Zealand and no current state to discuss. There are six members of the Society for Research in Child Development in this country who presumably receive the excellent publications *Child Development, Child Development Abstracts* and the *Monograph* series. The Society Newsletter carries masterly two-page reviews on current issues that deserve attention. It would be pointless to try to count the contributions of our colleagues to journals like those, and to *Developmental Psychology*, the American Psychological Association publication; the problem would be that of extremely low incidence behaviour. The questions of developmental psychology are questions about change. Research aims to identify and represent intra-individual change and inter-individual differences in changes. It aims:

1. To describe what occurs.
2. Or to analyse and explain differences by contrasting existing groups, cultures, generations.
3. Or to make a functional analysis of what controls change.

A range of research strategies are needed to:

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> Describe and monitor the course of development, provide a continuing elaboration of processes that account for developmental shifts, and do so in ways that are ecologically valid providing a solid and meaningful base for public policy and intervention.
>
> (Parke, 1976)

In New Zealand we teach many courses in child development but we do not provide incentives or resources for a viable and continuous research programme studying our children.

If child development were to be interpreted broadly to mean what any discipline has discovered about children in our country then my task is a difficult one. The research studies are small in number and diverse in nature. They are weak enough in design to call for extensive explanations of why another approach would not have yielded a better payoff for resources used. I will take this second and broader interpretation, and I will select for discussion those projects which best enable me to make some comments on the state of things today and the prospects for tomorrow. I cannot mention all the published or ongoing studies. There are three recent publications which summarize most of what we know about children growing up in New Zealand. These are *Growing Up in New Zealand, Growing Up in Polynesia* (Ritchie and Ritchie, 1978, 1979) and *Adolescence in New Zealand,* (Stewart, 1976). A critical appraisal of these publications will reveal the state of the art. We have some small bodies of knowledge which are like solo themes not yet related to the orchestrated whole of young people in the process of change in our society. We need a massive surge of developmental research to provide a better information base.

The idea of having a sound information base has caught on for the Household Survey of New Zealand Homes but does not extend to knowing about children. It is very significant that the New Zealand Planning Council and the Commission for the Future do not discuss children and their preparation for the roles they will carry in society in recent reports. We think forward in agriculture, in forestry, in fishing; we have economic strategies, international policies, and plans for long-term futures in energy resources. Children are not seen as the human resources of the future. It is as if we do not realise that it is even possible to ask future-oriented questions about children. Yet parents are great planners of their children's futures.

Physical Growth and Health Issues

There has been an historical link between medicine and child study in New Zealand from the days of Doris Gordon and Truby King. Probably the best set of data we have is the physical growth data on school children collected by the Department of Health at intervals over half a century and last reported in 1969. (A supplementary report on pre-school children was published in 1973.) This has allowed New Zealand figures to appear in comparative reports of world trends and we know where we stand in comparison with other countries. Stewart (1976) was plainly wrong when he claimed that data on the onset of puberty were lacking. Much can be inferred from excellent data on height and weight growth spurts, the onset of menstruation and pubic hair development.

Continuing the physical growth theme I will look briefly at three programmes of research currently operating in New Zealand rather to warn of the medical dominance in this field than to point to a research model or to significant gains for developmental psychology. None of the three programmes qualify as developmental psychology projects, yet all are concerned with child development. The projects are the Christchurch Child Development Study (Shannon, 1979), the Dunedin Multidisciplinary Project (Silva, 1979), and the programme of co-operative research between Auckland University's Departments of Education and Paediatrics (MacArthur, 1976).

The Christchurch study aims to examine inter-relationships between social and medical factors, and the problems of childhood. The investigation is particularly concerned with factors in society which may place the child at risk in a variety of ways. Examples of such areas of concern are planned and unplanned pregnancy, factors associated with low birth weight and prematurity, duration and success of breast feeding, family separation, patterns of illness and delivery of medical care. The methods used are questionnaires to parents, interviews and medical examination. Behaviour of children is not observed or recorded. Individual development is not the unit of analysis. The conception is sociological, and the modes of achieving changes are seen to be social and political policies on the one hand and medical guidance on the other. The project is supported by the Medical Research Council and the National Child Health Foundation. It began in 1977 and expects to have continuing

support for seven years. The variables studied will provide important background information for psychologists studying child development.

The Dunedin Multidisciplinary Project has been operating for seven years. Support has come from the Medical Research Council, the National Child Health Foundation, Foundation 41, the Departments of Education and Health, and the University of Otago. It is a longitudinal study of the long-term growth and development of a cohort of 1,000 children with the following purposes:

1. To study children who experienced early medical problems that required neonatal intensive care (delivery problems, neonatal hypoxia, preterm delivery, low birth weight, and neonatal problems such as hyperbilirubinaema, apnea and respiratory distress syndrome).
2. To define the contribution of a variety of environmental and experiential factors to child development and to the problems of child development.
3. To produce data on the incidence of developmental disorders, and
4. on more effective identification, and
5. on intervention techniques.

These goals place impossible demands on one research design. For a valid approach to such different questions a researcher would usually select different research designs for incidence studies, for descriptions of change over time, and for effective intervention studies.

Eighty-two papers were listed in a recent review of the project but developmental psychology figures only in a very few of them:

1. Attachment objects.
2. Behaviour problems *described* by mothers, teachers and testers.
3. Reading behaviour of seven year olds.
4. Speech articulation.
5. Sex difference on entry to school.

The last study, for example, confirmed known trends, on a sample of 479 girls and 512 boys. 'Why do boys and girls differ in their development and behaviour?' The answer given was 'It is beyond the scope of this brief paper to even begin to outline some of the complex and controversial issues, theories and supplementary evidence that is accumulating on this topic.' But it was also beyond the scope of the research design to add new light on this important topic. To answer 'why' questions in social science one must design several studies for that explicit

purpose systematically attacking the complex variables involved and handling with care and insight the antecedent and consequent issues.

Almost contemporaneously a programme of co-operative research projects has been completed involving the University of Auckland's Departments of Education and Paediatrics. The topics covered have been low birth weight and prematurity, neonatal meningoencephalitis, long-term survivors of cardiac surgery using profound hypothermia and circulatory arrest, gastro-enteritis, children whose mothers had steroid treatment at the time of childbirth because of premature labour, hypoglycemic children, rhesus haemolytic disease of the newborn, spina bifida children, and cerebral palsied children. The research designs used were prediction-type studies in which children with identified conditions in infancy are located at two points, before entry to school and after a time in school and psychological assessments made. Control groups of several kinds have been used with meticulous attention to sampling, matching and following up children who move to other centres. There is a flexibility in this set of procedures not found in a longitudinal cohort approach; they are considerably cheaper, and the controls over important variables are better. A critical comparative analysis of the research designs of these three projects would be very useful for future designers of studies and for funding committees.

'Sin in science is to use a poor method when there is a better one available to answer your questions' according to John E. Anderson, a developmental psychologist and a teacher who influenced my career. In our small country with limited research resources we must make the most of our funds by paying attention to good research designs which specify the questions to be answered, and describe how the procedures to be used will secure answers to those questions. The longitudinal methodology of the Dunedin project was the methodology used in Child Developmental studies from 1920 - 1950 in USA, rediscovered in Britain in the 1960's. The New Zealand study was set up in the 1970's, by which time its weaknesses were fully described in the literature of Developmental Psychology. In Campbell and Stanley's (1966) work there was enough guidance for me to refine the longitudinal approach in two projects during the 1960's. By the 1970's the first cross-lagged design in New Zealand research was

reported (Clay, 1970). Before long Schaie (1976), Nesselroade and Baltes (1974) were in print over the revisions needed in developmental research designs. Straight longitudinal designs are methodologically flawed. They confound age with cohort differences, and age with testing and instrumentation effects (Baltes, Reese, and Nesselroade, 1977). To ensure thorough preparation of research projects money will be well spent in paying consultants to work on research designs. I doubt whether we can afford to spend our meagre resources on projects which virtually say 'We will start this programme of testing or interviewing and see what comes out of it.'

The three projects discussed above have been expensive, drawing large amounts from Foundation grants. Probably there are some lessons for psychologists in them. Can we improve our research proposals? We should use our colleagues as critics and shape up better grant applications.

Visitors and Expatriates

Many of the authors who have written about Child Development in our country live overseas. Some came to New Zealand to study us (Landreth, Smart and Smart, Mercurio, Ausubel, Havighurst) and others went to work or study abroad (Brown, Boshier, Vellekoop-Baldock, Sutton-Smith). The message is 'If you stay in New Zealand you will not publish significant work in Child Development' and the variables involved in that issue are worth some thought.

I think it would be appropriate to confess my own sources of expatriate inspiration. From a New Zealand academic training in Education (which we should value more highly than some recent trends in course variety implies), I went on an externally provided scholarship to the USA. A series of happy chances saw me enrolled for postgraduate study at the historic Institute for Child Study at the University of Minnesota, one of five such institutes set up with Rockefeller funds to study children in the mid-1920's. Minnesota produced Florence Goodenough and Dale Harris, John Flavell and John Masters. Toronto trained Mary Ainsworth. Iowa gave Lewin a home, produced the Barker and Wright team and issued the first strong challenge to the constancy of IQ from Beth Wellman in 1942. California is probably best known for the work of Harold and Mary Cover Jones, Jean MacFarlane and Catherine Landreth, the last an expatriate New Zealander from the Department of Home Science at Otago University. Between these institutes and a few other centres like Gesell's Yale research unit there was a climate of dedication to describing what young children were like. When I arrived at Minnesota in 1951 there had been 25 years of struggle for recognition of this work within the discipline of Psychology. Psychologists had

considered this area of work peripheral, easy, rather unimportant, uninteresting, or no different from human functioning at a general and lawful level. I encountered my finest teacher in the Director of the Institute, John E. Anderson who, because of the clarity of his questioning, must be 70 per cent responsible for all the differences of opinion I have with my students and colleagues on issues of theory, methods and the appropriate questions to ask about Child Development.

Minnesota at that time was vehemently against psychodynamic approaches to child psychology which made life difficult for my fellow-students trained in Europe. Cyril Franks, an Englishman, later to be noted for his work in behavioural psychology in Britain and USA, was more comfortable in that data-gathering, statistics-conscious research institute. I was introduced there to the organismic model of developmental psychology. The child was seen as a complex organism in complex interaction with its complex environments. At that time the full impact of criticism of longitudinal studies had not been felt; they were supposed to be the designs that would reveal to us what children were like. Limitations were acknowledged in sampling and in the means of analysing complex data, but not in the research designs.

As early as 1963 Catherine Landreth published a study of 4 year olds' notions about sex appropriateness of parental care and companionship activities. Collecting New Zealand material while on a return visit to New Zealand and comparing it with her American data she reported that children's notions about adult sex roles are obviously culturally conditioned. In Wellington she was able to study children from the homes of both professional and manual workers; in Berkeley she only captured those from professional homes. *This points to a research advantage that exists in New Zealand, relatively easy access to populations.* The children were asked questions like 'Who helps a boy/girl with his/her bath? Who helps you? Who reads a boy/girl a story? Who reads to you?' Girls described mothers as giving care and both parents giving companionship. Boys from manual workers' homes thought the same way. This finding is consistent with the description of the New Zealand 'Fun Father' of pre-school children (Ritchie and Ritchie, 1970). At four years New Zealand boys from professional homes in 1962 said either parent could give both care and companionship. Has there been any shift in the

Landreth variables since the early 1960's? It would have been helpful if, from her baseline, we had had a series of studies over time which plotted any social changes occurring in this important area of parenting behaviours and caring roles.

Such questions point to one of the problems with the visitors' studies: they rarely generate a continuing interest in this country and the topic departs with the visiting researcher. What we can glean from a crop of disparate studies by expatriates is the consistency with which certain findings of more general relevance recur. Landreth found that socioeconomic differences were small in New Zealand. If this is a finding in other comparative studies then perhaps we have located a second major advantage for researchers in this country. *We may be able to carry out research relatively free from the complications of socioeconomic differences.*

L.B. Brown is another example of a New Zealander who has returned, researched, and gone again. After working in social psychology with Osser, Hammond and Taft in Australia, Brown used the *Day at Home* questionnaire with Form II children in two New Zealand studies and compared the results with similar Australian studies. The children were asked who decides about certain family activities and who acts to carry out the decisions. The answers reflect only the children's views of family activities. There are traps in placing too much weight on these findings because the children may be ignorant of what is transacted in the family and their report may reflect a poor sampling of the family's range of activities. Without reviewing both the initial and limited study (1959) and the larger, later study (1970) in detail I want to point up three major findings. Firstly, parents shared activities more in New Zealand than in Australia. Secondly, boys and girls had more similar views of the family than Australian studies showed. Thirdly, in the 1970 study rural and urban children showed very little difference in their descriptions of their families. *The autonomy of New Zealand mothers, and the tendency for boy/girl differences and urban/rural differences to be fewer, or to not appear, should be borne in mind.* If they recur in studies from time to time as they tend to we must take note of the consistency.

And lastly among these excerpts from history, I include Sutton-Smith, an expatriate New Zealander with a flare for the creative and unusual aspects of developmental psychology. He completed his study of the games of New Zealand children in 1952 at Victoria University of Wellington, as our first PhD in

Education, and I think it is to be republished this year, which points both to its quality and to the possibility that if Sutton-Smith has often seemed to be out of step, this may be because he was ahead of the times. His book *Child's Play* is dedicated to those who maintain that there is more than one way to play hopscotch. He discusses developmental changes in children's play, and in particular how they handle and generate rules for play. In a debate with Piaget on play in *Psychological Review* (1966) he maintained that play is an expressive form with its own unique purpose on the human scene and does not occur solely to serve cognition. Play, he said, is tension-enhancing and not merely something in the service of equilibrium. If play contributes anything to intelligence it is probably novel responses. His book with Rosenberg called *The Sibling* has a major focus on the effect siblings have on one another, a fearsomely complicated area because of all the variations on the patterns of siblings that can occur. That book is dedicated in fun to 'Our older siblings who will undoubtedly regard this as just another form of harrassment.' In Sutton-Smith's work the emphases are on divergent thinking, coping with novelty, and aesthetic development. In play the child is able to put things together in novel ways, to achieve a new synthesis, to rehearse strategies in group play, daydreaming and solitary play, to learn vast alphabets of responses, to get ideas going in the head. To play is to generate and to formulate, not merely to project. Play is much more than the puritanic dualism of Work and Play allows. When one considers such avant garde formulations it is little wonder that New Zealand's most published developmental psychologist has spent most of his academic career in USA. Think of our traditional aversion for the 'play way'! But the last comment should be Sutton-Smith's 'What a culture does with empty minds is to stick Red Riding Hoods in.'

Looking at only three expatriate researchers I have noted two major advantages for carrying out research in this country:

1. We have relatively easy access to populations.
2. We are relatively free from the complications of socioeconomic differences found overseas.

In addition we must recognize some consistencies in past research in reporting the autonomy of New Zealand mothers, fewer boy/girl differences and fewer urban/rural differences than studies from other countries report.

Interest in the Psychology of the Maori

Pearl and Ernest Beaglehole were psychologists with international standing who put their interesting studies of the 1930's into a world framework. In the cross-cultural comparisons of Whiting and Child of child-rearing across some 39 cultures New Zealand is represented in terms of the Beagleholdes' descriptions of Maori child-rearing earlier in this century. The Whiting and Child studies led on to a more detailed cross-cultural study of Mothers in Six Cultures, the essence of such effort being to clarify the critical variables in child-rearing by comparing differences in the process of rearing and differences in the outcome in national personality. Cross-cultural research was, until the last decade, personality oriented. It was also psycho-analytically oriented. Many of the studies looked at child-rearing techniques like feeding and weaning practices, toilet-training, dependency and independence, and aggression.

Jane Ritchie (the Beagleholes' daughter) has, with her husband James Ritchie, contributed to the updating of the study of the Maori in the second part of this century. There were three studies of Maoris in Rakau, a timber town, somewhere in the Bay of Plenty area. There were studies of pre-school, primary school, and adolescent groups, and an integrating volume by James Ritchie on the Maori personality, and how it related to the childhood variables described in the earlier studies. This set of researches fits well into the conceptual framework that child-rearing variables contribute to understanding the emergence of adult personality types. There is also a large measure of psychoanalytic theory in that report.

In the 1950's Sears, Maccoby and Levin made a study of New England mothers in USA, published in *Patterns of Child Rearing*. This study has been replicated in New Zealand by the Ritchies. There is no scientific report. To meet publication needs in New Zealand they produced a popular book which avoids the detail of sample, design and analysis. As far as can be ascertained it was a careful replication of method but the sampling is questionable on several grounds. So too, the tendency to mix scientific report with interpretation and with guidance towards certain practices for the mothers who read the book. It is done in a light-handed way but done nonetheless. These three aims - scientific report, interpretation and guidance - cannot be handled well together, and that will continue to be a publication dilemma in this country.

From there my account could go in two directions: one would take us through a few studies on families and the kinds of experiences they provide (Smart and Smart, 1973, 1976; Webster, 1979; Clay and Robinson, 1978), and the other would review a large number of studies comparing Pakeha and Polynesian. Turning to this latter topic I will direct your attention to two collections of studies and one review. Vaughan collected together studies on *Racial Issues in New Zealand* (1972) and Bray and Hill (1974) edited two volumes of *Pakeha and Polynesian*. Last year a chapter appeared in a book co-authored by an expatriate New Zealander, Bernard Spolsky (1978), on bilingualism. Benton wrote an excellent overview of the problems and prospects for indigenous languages and bilingual education in New Zealand and Oceania. Such coverage makes it a little easier for the developmental psychologist to determine some of the variables he needs in his research designs. The linguistic survey of the New Zealand Council for Educational Research, nearing completion, represents another type of background data to be consulted by the designers of studies. And one of the most penetrating analyses of methodological issues in this area came from McDonald (1976) discussing who is a Maori and questions to be asked about the selections of samples.

Most of this research has been in a cross-cultural comparative mode. Bowing to the insistence of some Maoris that they should be considered as and for themselves we may see, in the future, studies of change over time in the development of Maori children in a non-comparative manner, hopefully by own-group researchers.

Programmes of Research

We have three bodies of sound, progressive developmental research which I want to direct attention to. It is good quality, aligned to the methodologies and questions of the discipline, pursued with scientific integrity, published for whatever rebuttal is necessary, and sensitive to cultural variables that are indigenous.

Nicholls (1975) studied the children's understanding of factors which determine achievement here in New Zealand. Children of five years saw difficult tasks simply as tasks where success is unlikely. Adults and older children valued difficult tasks more highly than easy tasks because they saw success on difficult tasks as providing evidence of ability or effort. As

the child got older effort was increasingly seen as sufficient to account for success and lack of effort for failure. Luck was increasingly discounted. Where effort was not a plausible cause luck was seen increasingly as a cause of success. Nicholls mapped the age changes that occur in these concepts, recording sex and ethnic differences.

In three studies of 10 to 11 year old children comparing boys and girls with similar attainment levels Nicholls (1979) found that girls tended to be self-derogatory about ability:

1. They attributed failure to poor ability rather than lack of effort or luck.
2. They were less likely than boys to use a concept of ability to explain success, but they saw effort as a more likely cause of success than boys did.

There is an interesting shift with age in the Maori and Pakeha groups. Both Maori and Pakeha children at the younger ages were influenced by a stereotype of Maoris as less able. They were less inclined to attribute success to high ability when the child succeeding was a Maori than when the child was a Pakeha. In contrast 13 and 14 year old students gave explanations of academic success and failure that did not differ for Maori and Pakeha students of similar attainment levels. There was no evidence in that group for assuming that Maori pupils were more likely than Pakehas to have low perceptions of their academic performance or to be self-derogatory in explaining academic outcomes.

That body of research conducted over several years has described the parameters, has sketched the developmental picture. John Nicholls received positive reinforcement for the qualities of his work outside this country and now works in the USA.

Graham Vaughan has also followed a particular theme, ethnic awareness and attitude, through a number of studies, over a period of years, and through a possible change in society's attitudes. Between 1961 and 1970 twelve hundred Maori and Pakeha children ranging from 5 to 12 years were tested by Vaughan and his research students for intergroup preferences. Results showed an early development of ethnic awareness at 5 to 6 years with a preference for friends among the majority group in young children of both ethnic groups but by the upper primary school ages, 10 to 14 years, the Maori group had shifted to showing an own-group preference. In an analysis of shifts that may have occurred

over the 1961 to 1970 period Vaughan suggests that in recent years Maori children have been showing an increasing preference for their own ethnic group and that the blatant in-group preference of older Pakeha children aged 9 to 12 years has weakened, probably as a facet of social change. He considers that the shift in Maori preferences has been influenced by increasing urbanization and awareness of minority group assertions in other countries.

Another body of research is accumulating from the research activities of Thomas at the University of Waikato. He has conducted a large number of studies of ethnic differences in a social or cross-cultural psychology mode rather than attending to developmental change. In one of his studies he reported that urban Maori children in Form II did not directly seek help from teachers in the way that Pakeha children did in three different settings - individual, group and classroom. They showed non-verbal behaviours like facial expressions of appeal, making noises, and head scratching when Pakeha children would ask directly for help or look at the teacher. He relates this to cultural training which involves Maori children in having to wait until noticed by a parent or other adult (McKessor and Thomas, 1973). Thomas has also found that urban Maori children showed extremely competitive behaviour in a study of co-operation and competition. The Ritchies suggest that the implications of this are grave since we know a considerable number of these children tend to end up losers. They ask: 'What will happen to a highly competitive person who finds himself or herself constantly and unfairly losing?' (Thomas, 1975).

Learning from Reporting

The problems in society tend to attract research funds. The study of juvenile offending should not be allowed to slip into history in the New Zealand research on child development. It was a prediction study, taking a cohort of children as 10 year olds, gathering data on them, locating those who offended, and tracing the predictor variables in the original observations that were related to the offending outcomes. Conceptually that was up-to-date methodology at the time it was generated though better designs would now be available. The statistical integrity of the programme was never in question, and the report of the ethical problems of data-sharing among several government departments and a University provides an impeccable model. Some of the problems which the projected research faced were obvious at the outset. One was that no developmental psychologist was included in the team. The study probably began too

late, starting with 10 year olds. Offenders at that age were perhaps already testing the limits of society in small but calculated ways. Secondly, teachers were to supply the data on the children, and their knowledge while extensive over time, and for types of children, would be limited to certain settings and would give a partial picture of the child's range of responses. There were other problems, not the least of which were the problems with the main instrument used, the *Bristol Adjustment Guide*. There are five reports, and in them some excellent pointers to the future designers of research in this area. Most of it suggests what not do do, but that is important guidance.

The reports were subjected to a thorough review by Braithwaite (1977) which I consider to be the essential reading on this whole project. We are polite in our reviewing in a way that tends not to be progressive in its profit for further research. While I see little point in a sabre-swipe type of review for the sake of establishing one's own image as a critic, I think we could contribute more to the ongoing field of child research in this country by reviewing bodies of research in forward-looking ways:

1. We must have better literature surveys, particularly of local literature, noticing recurrent emphases in New Zealand findings.
2. We must monitor recent developments from overseas keeping our procedures and statistics up-to-date.
3. We need to improve our reporting habits, making quality results available locally.
4. We need to encourage extensive but constructive reviewing.

Adolescent Studies

From the strength of the foregoing programmes of work I must return to less satisfactory ground. I have reviewed one of Stewart's (1976) two volumes of adolescent research (Clay, 1976), and wish to reiterate some points I made in that review.

I would endorse the editor's rationale:

> New Zealanders are very interested in their young people but too often unfortunately they have had to rely on discursive and impressionistic comment. Also, much of it has been based on overseas material, which although often illuminating does need to be tested for applicability in New Zealand. For wise national

> and personal decisions to be made such concrete factual material as is available in New Zealand must be marshalled and made more accessible. This is the goal of these volumes.
>
> (Stewart, 1976)

One would hope that this publication will startle us into the realization that we know very little at the descriptive level and almost nothing at the explanatory level about the factors influencing our young New Zealanders in that cultural finishing school of adolescent experience.

In a recent survey of adolescent psychology L'Abate (1971) claimed that the field contained few satisfactory research projects, few publications and few specialists compared with other periods of childhood. In New Zealand we have carried that trend to an extreme of neglect.

A most valuable chapter is the review of research since 1950 (Broadley, McMorland, Stewart) and it will undoubtedly be used as a reference source.

Several studies on school influences make a useful contribution. The comparison of Day Boys and Hostel Boys and their spare time activities shows that the boys' lives differed in ways that controlled their opportunities and interests over four years at school and in the careful reporting of results it is easy to see what is lost upon the roundabouts and what is gained upon the swings. Mercurio's work on corporal punishment is an example of a different but effective approach to research with careful observation of the complex variables operating within one school.

A comparison of the Baldock and Ballard articles is interesting. From a sociological framework Baldock concludes that the New Zealand school system is unable to erase the social class background of the students with the implication that we ought to, and have therefore failed or that we are inconsistent if we claim to believe in equality of educational opportunity. Ballard makes a psychological analysis of parent, teacher and peer expectation and their effects and aspiration which approaches closer to explanatory interpretation of some of the variables in Baldock's problem than her research design could hope to do.

The Keeling and Nuthall study of values, sound in sample, technique and interpretation, reports age, sex and ability differences among 682 third and fifth formers drawn from 10 high schools. The findings suggests some directions of change in the personal value structure of adolescents as they get older. There is a particular value in such careful research because it provides a base from which further research can be generated.

Because there have been so few studies undertaken an editor is bound to take some leaps of interpretation in cross-relating results but this should be attempted with all due care. In Stewart's editorial comment it is suggested that single-sex schools bear a causative relationship to the fact that Youthline has many calls about boy/girl relationships! Isn't it possible that this emphasis arises because these are a focal adolescent concern? Stewart claims that qualities of critical thought, imaginative leadership and willingness to live with change are not the products of authoritarianism. Firstly they could be, in reactive adjustment, which adolescents achieve rather easily. It is unwise to underestimate the flexibility and the search for change that swells in the heart of the young Secondly, hypotheses in adolescent research must not be generated in pop psychology or sociology like 'the facile ideas which sweep through a self-conscious culture from time to time' (Adelson, 1970). Although the family and school may emphasize control in duet, the wider community and the events of the times are crucial in shaping the fledgling's identity at 16 - 20 years. (Keeling & Nuthall's report suggests this.) For example the morality and value systems of today's youth will more probably be shaped by and, sharpened on, the issues of the All Black Tours, the Olympic Games, the Muldoon image, and the economic climate than by the family and school atmospheres which they have learned to live with or to ignore. This is not a defense of authoritarian ways. It is a plea against false, oversimplified hypotheses about young people and what effects them. It expresses my preference for the Ballard over the Baldock approach, and for Havighurst's understanding that the New Zealand family could at the one time be more authoritarian and yet have warmer interpersonal relationships than the American families he studied. The sensitivity of adolescent behaviour to cultural change and contemporary emphases almost defeats the psychologist because before he gets his research designed or his data analysed the adolescent trend has branched off in a new direction responding to signals in current events that are barely detectable (Nesselroade and Baltes, 1974).

With some sense of desperation I turned in 1978 to a very comprehensive study of 12 year olds. As part of a contract to the Department of Education for the study of Form II children last year we undertook to review knowledge of New Zealand children who were at that age level. We called our chapter 'Islands of Information' and grouped what is known under these headings:

1. Physical growth data.
2. Ethnic factors.
3. Home and sibling factors.
4. Sex-role factors.
5. Peer relationships.
6. School factors.
7. Activities and opportunities.
8. Social sanctions and minor delinquencies.
9. Studies of work and vocational interests.
10. Images of self.

Taking into account the review of literature and some of the things that our twelve year olds told us in the surveys we concluded that there are some interesting studies to be done on peer group interactions and what they contribute to a child's development. The popular image of peers and their influences was shattered by our clear result that peers are seen to be the most controlling and disciplining folk around the child. In the area of self-concept the *Self and Parents* scale yielded the highest ratings for feelings about self, while on the *Self and Peers* scale the ratings were lower. Another interesting fact was that boys in one-adult families had lower self-concepts in relation to peers than all other children. Does the peer group give boys without fathers a hard time? It is not the same for girls in this position according to our children. Bronfenbrenner believes that strongly peer-oriented adolescents are likely to hold negative views of themselves and their peer group. He concludes that the peer-oriented child is more a product of parent disregard than of the peer group, that he turns to his peer group less by choice than by default. The vacuum left by the withdrawal of parents and by adults from the lives of children is filled with an undesired and possibly undesirable age segregated peer group. As this issue has particular relevance for some groups in New Zealand we would gain ground if we knew more about the credits and debits of peer group associations and interactions.

Towards a Stronger Research Base in New Zealand Child Development Research

From recent reviews of child development research overseas we can identify the gaps and weaknesses, and by searching the new publications we can appreciate the current questions and criticisms in the field. Time and money devoted to the analyses of local knowledge, and to consultation with colleagues within and beyond one's discipline would be well spent prior to designing research. Critical and constructive reviewing of research proposals, and of published reports, will strengthen the field. Visitors and expatriates are not the purveyors of solutions but provide a stimulus to us to ask our own questions about our children in

our own society. We could give more thought to using these visitors in ways which will have generative effects on research activity. And we must be wise in our choices of projects and methods because our opportunities to do research will be limited by the size of the talent pool and the financial resources.

A supporting body of student research will emerge from courses which critically examine the theoretical arguments behind developmental issues. So I should turn, finally to some of these issues.

At the University of Minnesota I was introduced to an organismic model in developmental psychology that predated later shifts 1) to antecedent-consequent research, 2) to behavioural analysis, and 3) more recently to the analysis of environments and contexts with anthropological-type methods. What is the organismic model's status today? The model stems from natural science rather than physical science. The basic metaphor is that of a living organism, an organized whole, in continuous transition from one state to another. The organism is inherently and spontaneously active; it is a source of acts. Change is a given in this model. The organism is a system and in that system the parts and the configuration of the parts change. Interactions occur between various parts of sub-systems of the organism or between the organism, its subsystems and the environment. These interactions would have weak effects over short periods of time, (for example in the learning experiment) and be strong over long periods of time.

An organismic view holds to reciprocal causation, one of the many complexities that the developmentalist is reluctant to simplify. The organismic psychologist tries to explain the organized complexity of the organism and the ordered changes that occur in systems. Linear change is not something the organismic model finds sufficient. Many types of multiple progressions can be sketched in cumulative models (Van Den Daele, 1969). From one position children who are the same may take many different routes. From different positions they may reach a similar state. We find it hard to think of children who have learned slipping backwards in achievement yet our best example of this is often in our own experience with learning a foreign language.

Views such as these lead developmental psychologists to ask the kinds of questions that statistical analyses cannot handle, relating to change over time. One has the option of tailoring one's questions to the available techniques or asking the questions for which answers are needed and having doubts expressed about the analysis procedures.

Developmentalists are interested in the external agent, the antecedent condition or the independent variable which moves or changes the organism (what Overton and Reese call efficient causes) but they are also interested in a limited range of motivational factors (material causes), in the pattern, organization or form of the psychological structures (formal causes) and the end towards which the organism develops such as hierarchical orders, processes of differentiation and integration (final causes).

This organismic model has been central to my own work on early reading. In my first study the longitudinal approach was modified to overcome some of the then-current criticisms by shortening the time-span between observations to weekly intervals. On-task behaviour was the basic data; test-scores were only a secondary source of descriptive data. Two cohorts were used, 1963 and 1964 although it was not finally appropriate to analyse their results separately. It was assumed that children would differ in their response repertoires on entry to school and would take divergent routes in response to programmes. The research design, aimed at describing what occurred had to allow for diverging developmental sequences. Interpretations were made following the plotting of diversity, in an attempt to account for what occurred. These have been subjected to further tests in subsequent studies.

The Maori Education Foundation study (Clay, 1970) reflected my reading of Campbell and Stanley (1966) and in particular their discussion of the institutional cycle design. New cohorts of subjects entering a programme at paced intervals can provide tests of time and age variables. I experimented with this in another type of longitudinal design. Data-gathering lasted six months. However by starting with five age groups, 5:0, 5:6, 6:0, 6:6 and 7:0, and following each as a separate group over six months I had a cross-sectional description of 5:0 - 7:0 year olds and could compare two samples at each of five ages. I had greater control over my data in this design, although I was not clearly aware of the many advantages described a few years later by Nesselroade and Baltes (1974) or Baltes, Reese and Nesselroade (1978) for the cross-lagged design.

Some of the advantages that exist for child development researchers in New Zealand (such as access to populations, potential for follow-up, and fewer group differences) have particular value when one attempts to study change over time in children's responses. Some of the 'noisy' variables are quietened.

According to Blampied (1978) a psychologist visiting this country recently remarked that there were more disciples of Skinner per capita in New Zealand than anywhere else on earth. Psychology departments have had a strong publication record in the *Journal of Experimental Analysis of Behaviour*. Parallel with

this work there has been a steady rise of influence and effectiveness of Behaviour Analysis in New Zealand with particular strengths in Education Departments and much credit to Ted Glynn in Auckland and John Church at Canterbury. Overton and Reese (1973) maintain that the mechanistic model used in Behaviour Analysis assumes a reactive organism. The organism becomes active only as a result of external forces. One searches for material and efficient causes and studies uni-directional trends and linear causality. Causes are seen as external and efficient and occurring perhaps in chain-like sequences. In principle, complete prediction is possible. This model takes a close-up focus on what occurs: it pays attention to antecedent relationships and consequent events in such short time spans that a functional relationship can be assumed. It pays attention to the human and physical environment as part of the research data-collection. More complex sets of interactions can be studied such as agent action, organism response, reinforcement by the agent, and organism reinforcement of the agent.

I do not believe that it is merely chance that three Education Departments in this country which had strong Developmental Psychology courses in Education have also developed, subsequently, strong interests in Applied Behaviour Analysis. According to most discussions these two emphases should be in conflict stemming from different world views or metaphysical models and being categorically incompatible. Yet in practical day to day research work these approaches are now very close together. Most features of applied behaviour analysis research are completely compatible with the frameworks of organismic psychology, but for two limiting conditions. It gives priority to efficient causes, and to functional relationships.

O'Rourke (1978) provides an illustration of the closeness of current methodologies in applied behaviour analysis and developmental psychology. A detailed analysis of behaviour in its context is the starting point of her research. Description precedes manipulation. She made an analysis of intermediate children's playground behaviour over the period of a year. Children's participation in play and the amount of inappropriate behaviour was observed. Then increased supplies of moveable equipment, static equipment and adults participating in the play were introduced. The first step in this research

was to describe what occurred in the playground by detailed tallying procedures. Then a manipulation was introduced and its effects were tallied. The overall level of participation was studied (it increased) and the level of inappropriate behaviour (it decreased). The long-term nature of the study made it possible to say that the introduction of moveable equipment had a temporary effect, and a continuing supply of novel moveable equipment may be necessary to maintain participation. The provision of static equipment such as volley-ball, cricket, hockey and padder tennis maintained high rates of participation and low rates of inappropriate behaviour if the equipment was available early in the play period. The introduction of more participating adults attracted increased numbers of children to those zones, produced high stable rates of participation and maintained low stable rates of inappropriate behaviour. There are implications for communities and schools wishing to provide recreation facilities for children of this age. Static equipment will probably be used; new resources should be added from time to time, and adult participation increased child participation.

This study demonstrates the methodological advances that have been made in research design in this country. Play was the topic, a theme in New Zealand research that runs from Sutton-Smith through the pre-school research on play to the activities studies of how children spent their leisure. Behaviour analysis was the data-gathering technique used to discover what happens in a natural environment - in a sense describing the parameters of the behaviour and the environment, and over a long stretch of time. With a beautiful orchestration of controls over this natural environment O'Rourke then continued her observation of the functional effects of 1) experimental manipulations and 2) natural manipulations introduced by the educational shifts in games and sports that occurs on rather fixed timetables. If developmental research is interested in the study of change over time, as I maintain, this must be the most controlled study of such change that I know. Yet it is not a developmental study. It did not address itself to the question of change in individuals over time as Behavioural Analysis studies usually do. Given the complexity O'Rourke disciplined it must be entirely within the bounds of possibility to use this model for a developmental study, monitoring how individuals change. The one problem that remains centres around the two views of prediction. In principle complete prediction is possible in Behavioural

Analysis studies, while in the organismic model divergent responses to learning opportunities are not only predicted but are also probably desirable (for the creative, play and novel responses to emerge). If one is to plot divergent responses to a set of opportunities it is necessary to study a fairly large number of subjects. This has been difficult to achieve in applied behavioural analysis designs. O'Rourke may have provided some guidance to the solution to this problem.

The issue is not one of conflicting world views, but is a matter of the questions we want answered. They must determine our selection of research strategies.

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